



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09-886,447	06/21/2001	Michael Albert Haase	56033USA9A.002	5768

32692 7590 08/05/2003
3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

[REDACTED] EXAMINER

LEURIG, SHARLENE L

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2879

DATE MAILED: 08/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/886,447	HAASE ET AL.
	Examiner	Art Unit
	Sharlene Leurig	2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 May 2003.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 23-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 23-32 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on May 19, 2003 has been entered and acknowledged by the Examiner. Claim 23 has been amended.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 23, 24 and 27-32 and are rejected under 35 U.S.C. 102(b) as being anticipated by Tang et al. (5,294,869) (of record).

Regarding claim 23, Tang discloses an organic light emitting full color display panel wherein a blue dopant (Figure 12, element 311) and a non-blue dopant (309) are dispersed in at least one non-blue subpixel (left-most subpixel), and wherein the non-blue dopant emits light through electroluminescence, since all the colored light emitting layers emit via electroluminescence (column 6, lines 45-47; column 7, lines 9-12). Layer 311 can be the blue-emitting electroluminescent layer (column 34, lines 64-68).

Regarding claim 24, the blue dopant is dispersed in an electron-transporting layer (column 8, lines 57-59).

Regarding claim 27, a mask is integrated with the display device (Figure 11, element 303).

Regarding claims 28 and 31, the mask comprises a photoresist (column 5, lines 62-65).

Regarding claims 29 and 32, the photoresist is a dry film photoresist (column 6, lines 5-9).

Regarding claim 30, the display panel comprises a plurality of full color pixels formed on a substrate, each full color pixel comprising a red, a green, and a blue subpixel (column 13, lines 22-31), an integrated shadow mask comprising a plurality of ribs (Figure 11, element 303) erected on the substrate, wherein the pitch of the ribs is smaller than the pitch of the pixels. For each pixel there are several ribs, where the pixel is the unit comprising the three sub-pixels illustrated in Figures 11-14; therefore the pitch of the ribs is smaller than the pitch of the pixels. The integrated shadow mask corrects for parallax, for forming the full color pixels, since the walls of the mask (Figure 11, element 303) are of a height that exceeds the thickness of the EL layer and "are capable of shadowing an adjacent sub-pixel area" (column 2, lines 33-37) and are interposed between the source of the EL medium and the adjacent sub-pixel (column 6, lines 50-55), which prevents EL material from being deposited in the wrong sub-pixel and requiring removal (column 6, lines 40-44).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tang et al. (5,294,869) (of record) in view of Shieh et al. (EP 0 762 806 A2) (of record).

Tang discloses an organic light emitting device with all the limitations discussed above including a blue dopant dispersed in a host layer, but lacks a blue dopant dispersed in a host layer between an electron transporting layer and a hole transporting layer.

Tang discloses the stability and efficiency merits of an organic EL medium having more than just a luminescent layer and two electrodes (column 8, lines 45-47).

Shieh teaches an organic EL medium having a light-emitting layer disposed in between a hole transporting layer and an electron transporting layer (column 6, lines 14-25) and teaches the use of various combinations of hole injecting and transporting zones to create a desired OEL medium.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tang's OEL medium having a blue dopant dispersed in a host layer with a separate electron transporting layer and sandwiching the host layer between a hole transporting layer and an electron transporting layer in order to further increase the stability and efficiency of the device.

3. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tang et al. (5,294,869) (of record) in view of Shi et al. (5,668,438) (of record).

Tang discloses an organic light-emitting device with all the limitations discussed above, but lacks a blue dopant dispersed in a hole-transporting layer.

Tang discloses the stability and efficiency merits of an organic EL medium having more than just a luminescent layer and two electrodes (column 8, lines 45-47).

Shi teaches doping the hole transporting layer in order to obtain efficient light emission from an organic EL device (column 2, lines 1-6).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tang's OEL medium having a blue dopant and a hole transporting layer, with the dopant dispersed in the hole transporting layer in order to obtain an efficient light emitting device, as taught by Shi.

Response to Arguments

4. Applicant's arguments, see paper numbers 11 and 12, filed May 19, 2003, with respect to the rejection(s) of claim(s) 23-32 under Tang et al. (5,294,870) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tang et al. (5,294,869).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2879

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharlene Leurig whose telephone number is (703)305-4745. The examiner can normally be reached on Monday through Friday, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703)305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

[Signature]
VIP PATEL
PRIMARY EXAMINER

Sharlene Leurig
July 28, 2003

SL